Cathode Ray Tube

Name: _____   Section: 4BL-___   Date performed: __/__/__

Lab station: ___   Partners: _____

Cathode Ray Tube #_____

Initial setup and focussing the beam

$V_{\text{battery}} =$ _____   (range:)

V_C ( )	V_B ( )	V_{acc} ( )

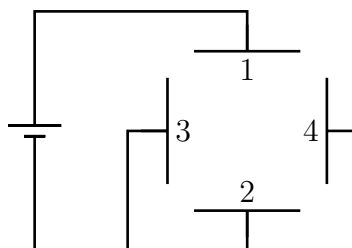← electron speed = _____

Show speed calculation

Attach V_B vs. V_C graph from Excel.

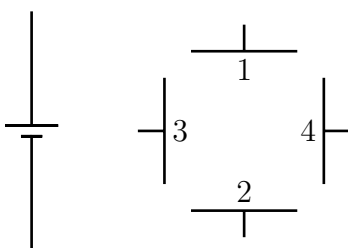slope = _____ ± _____   (from linest)

y-intercept = _____ ± _____   (from linest)

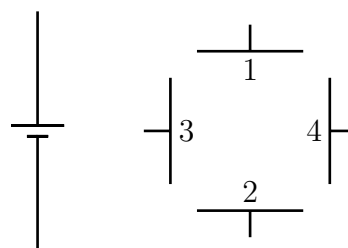## The deflector plates

Vertical deflection   Horizontal deflection   Diagonal deflection

For horizontal and diagonal deflection, complete the circuit diagrams above. In each case, indicate the direction that the spot moves when the deflection voltage is increased.

Vertical deflection factor (VDF)

Fixed values: $V_B = $ _____ $V_C = $ _____

V_{defl} ( ) (range)	Δx ( )
( )	
( )	
( )	

V_{defl} ( ) (range)	Δx ( )
( )	
( )	
( )	

Attach V_{defl} vs. Δx graph from Excel.

$$\text{VDF} = \underline{} \pm \underline{} \qquad \text{(from linest)}$$

Fixed value: $V_{\text{defl}} = $ _____   (range:)

V_C ( )	V_B ( )	V_{acc} ( )	Δx ( )

Deflection [increases / decreases / remains the same] as the acceleration voltage is increased.
Explain: